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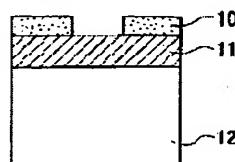
APPLICANT : TOSHIBA CORP;

INVENTOR : USHIKU YUKIHIRO;

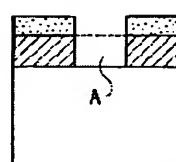
INT.CL. : H01L 21/3065 H01L 29/78 H01L 21/336

TITLE : METHOD FOR MANUFACTURING SEMICONDUCTOR DEVICE

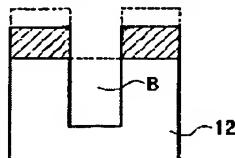
(a)処理前



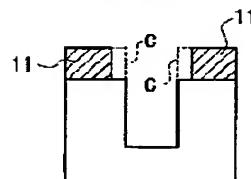
(b)薄膜エッチング



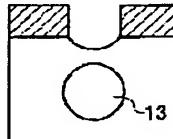
(c)反応性イオンエッチング
およびレジスト除去



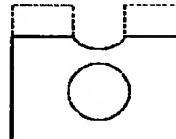
(d)溝膜後退



(e)熱処理



(f)溝膜除去



10 : レジスト膜
11 : 薄膜
12 : 基板
13 : 空洞

ABSTRACT : PROBLEM TO BE SOLVED: To manufacture a hollow in a substrate with satisfactory controllability.

SOLUTION: This method comprises a thin film accumulating step for accumulating a thin film on a semiconductor substrate (a), a thin film opening step for forming an opening at the thin film, by removing one part of the thin film and exposing the semiconductor substrate (b), a groove forming step for forming a groove having an opening which is not larger than the opening at the semiconductor substrate by removing one part of the exposed semiconductor substrate (d), and a heat treatment step for carrying out heat treatment to the groove and closing the opening of the groove (e).

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